

General

Title

Occupational health: annual rate of hospitalization for work-related surgical low back disorder per 100,000 employed persons age 16 years or older.

Source(s)

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

Measure Domain

Primary Measure Domain

Related Population Health Measures: Population Use of Services

Secondary Measure Domain

Related Population Health Measure: Population Health State

Brief Abstract

Description

This measure is used to assess the annual rate of hospitalization for work-related surgical low back disorder per 100,000 employed persons age 16 years or older.

Rationale

State health agencies, which are vested with the legal authority to require disease reporting and collect health data, play a central role in public health surveillance. Whereas public health surveillance was once focused primarily on infectious diseases, it has expanded in recent years to include surveillance of a wide range of health outcomes and their determinants, including chronic diseases, injuries and health behaviors (Halperin & Horan, 1998). National statistics on occupational injuries and illnesses have been collected largely outside of the public health infrastructure and rely almost entirely on data reported by employers. State health agencies that have access to a wide variety of public health data systems have

an important role in the surveillance of occupational diseases, injuries and hazards.

Hospitalizations for work-related back disorders have serious and costly effects including: high direct medical costs, significant functional impairment and disability, high absenteeism, reduced work performance, and lost productivity. Well-recognized prevention efforts can be implemented for high risk job activities and reduce the burden of work-related low back disorders.

Evidence for Rationale

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

Halperin W, Horan JM. Surveillance of injuries. Public Health Rep. 1998 Sep-Oct;113(5):424-6. [PubMed](#)

Primary Health Components

Occupational injury; low back surgery

Denominator Description

Employed persons age 16 years or older for the same calendar year

Numerator Description

Inpatient hospital discharges for low back disorders (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] Diagnosis and Procedure codes used) with primary payer coded as workers' compensation (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Each year 15% to 20% of Americans report back pain, resulting in over 100 million workdays lost and more than 10 million physician visits. National Health Interview survey data estimates that two-thirds of all low back pain cases are attributable to occupational activities. The cost of back pain is also disproportionate, as it represents about 20% of workers' compensation claims, but nearly 40% of the costs. In 2003, 3.2% of the total United States (U.S.) workforce experienced a loss in productive time due to back pain. The total cost of this productive time lost to back pain is estimated to be in excess of \$19.8 billion (Stewart et al., 2003; Ricci et al., 2006).

Evidence for Additional Information Supporting Need for the Measure

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

Ricci JA, Stewart WF, Chee E, Leotta C, Foley K, Hochberg MC. Back pain exacerbations and lost productive time costs in United States workers. *Spine (Phila Pa 1976)*. 2006 Dec 15;31(26):3052-60. [PubMed](#)

Stewart WF, Ricci JA, Chee E, Morganstein D, Lipton R. Lost productive time and cost due to common pain conditions in the US workforce. *JAMA*. 2003 Nov 12;290(18):2443-54. [PubMed](#)

Extent of Measure Testing

In 1998, the Council of State and Territorial Epidemiologists (CSTE), in association with the National Institute for Occupational Safety and Health (NIOSH), convened the NIOSH-States Occupational Health Surveillance Work Group to make recommendations to NIOSH concerning State-based surveillance activities for the coming decade.

The Work Group recognized the need to pilot test 19 indicators to assess the feasibility of widespread implementation and to develop specific guidance on how to compute the proposed measures. In summer 2002, the five "Core" states with NIOSH Cooperative Agreements to conduct "Core Occupational Health Surveillance" (California, Massachusetts, Michigan, New York, and Washington) agreed to pilot test the indicators and to create user-friendly "how-to" guides so that other states could calculate the indicators.

Subsequent to the initial pilot testing by the five "Core" states, eight additional states (Connecticut, Maine, Nebraska, New Jersey, New Mexico, North Carolina, Oregon and Wisconsin) pilot tested the "how-to" guides. Feedback from these additional states was incorporated into the development of the final "how-to" guides for 19 indicators in November 2004.

Procedures to review, approve, and implement new indicators were developed by the Work Group. In 2013, a fourteenth health effect indicator (*Asthma among Adults Caused or Made Worse by Work*) was developed and pilot tested. The Work Group voted to adopt this as the twenty-first indicator. In 2014, a fifteenth health effect indicator (*Work-Related Severe Traumatic Injury Hospitalizations*) was developed and pilot tested. The Work Group voted to adopt this as the twenty-second indicator.

Evidence for Extent of Measure Testing

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

National Public Health Programs

State/Provincial Public Health Programs

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

State/Provincial

Statement of Acceptable Minimum Sample Size

Specified

Target Population Age

Aged greater than or equal to 16 years

Target Population Gender

Either male or female

National Framework for Public Health Quality

Public Health Aims for Quality

Population-centered

Risk Reducing

Transparency

Vigilant

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

The calendar year

Denominator Sampling Frame

Geographically defined

Denominator (Index) Event or Characteristic

Geographic Location

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Employed persons age 16 years or older for the same calendar year

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Inpatient hospital discharges for low back disorders (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] Diagnosis and Procedure codes used) with primary payer coded as workers' compensation

Note: Refer to the "How-To Guide – Indicator #20" section of the original measure documentation for instructions to calculate the annual rate of hospitalization for work-related surgical low back disorder per 100,000 employed persons age 16 years or older. Refer to Tables 1 and 2 in the original measure documentation for diagnosis and procedure codes.

Exclusions

Events with age unknown, residence out-of-state, unknown state of residence, and out-of-state inpatient hospitalizations

Refer to Table 3 in the original measure documentation for exclusion criteria for surgical and non-surgical low back disorder cases.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

National public health data

Paper medical record

State/Province public health data

Type of Health State

Adverse Health State

Instruments Used and/or Associated with the Measure

National Center for Health Statistics, National Hospital Discharge Survey

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

Other Available Data: Age, gender, race/ethnicity, diagnosis, residence zip code, hospitalization cost

Recommendations: Age, gender, race/ethnicity, zip code specific counts and rates can be used to better define the pattern of work-related hospitalizations. States that have access to statewide outpatient surgery data can compare trends of outpatient surgery for low back disorders to data from this indicator.

Standard of Comparison

not defined yet

Identifying Information

Original Title

20.2 Annual crude rate of hospitalization for low back surgery per 100,000 employed persons age 16 years or older.

Measure Collection Name

Occupational Health Indicators

Measure Set Name

Cumulative Occupational Injury

Submitter

Council of State and Territorial Epidemiologists - Professional Association

Developer

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

Council of State and Territorial Epidemiologists - Professional Association

Funding Source(s)

Centers for Disease Control and Prevention (CDC)–National Institute for Occupational Safety and Health (NIOSH) Award 2-R01 OH010094-05: Enhancing State-Based Occupational Health Surveillance Capacity

Composition of the Group that Developed the Measure

Original Work Group Members: National Institute for Occupational Safety and Health (NIOSH)–Council of

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Current Occupational Health Indicator (OHI) and Work Group Leads

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Tristan Victoroff, *Co-chair* (NIOSH Representative)
Patricia Schleiff, *Co-chair* (NIOSH Representative)
Amy Patel, *Secretary* (CSTE)
Naomi Anderson, *OHI Lead* (State Representative from Washington)

Financial Disclosures/Other Potential Conflicts of Interest

None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2016 Mar

Measure Maintenance

Annually

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates a previous version: Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists; 2014 Mar. 116 p.

Measure Availability

Source available from the [Council of State and Territorial Epidemiologists \(CSTE\) Web site](#)

For more information, contact CSTE at 2872 Woodcock Boulevard, Suite 250, Atlanta, GA 30341; Phone: 770-458-3811; Fax: 770-458-8516; Web site: <https://cste.site-ym.com/> .

NQMC Status

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Production

Source(s)

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

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